Poster

# [P25-7] P25-7: Immunosuppressive drugs (2): Monoclonal antibody and genotyping

Chair: Toru Hashida, Japan

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## [P25-7-7] Therapeutic drug monitoring in inflammatory bowel disease- a preliminary report from india

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**Background**

Asians exhibit a high rate of Thiopurine induced toxicity in-spite of the low frequency of Thiopurine Methyl Transferase (TPMT) mutations. The step up drugs like infliximab (IFX) have been reported to fail due to formation of antibodies to IFX (ATI). In both these cases monitoring of thiopurine metabolites, 6-Thioguanine nucleotide (6-TGN) &6-Methylmercaptopurine (6-MMP) and estimation of IFX &ATI level would assist in optimizing the therapy. Data on thiopurine metabolite levels, IFX &ATI level from India is scarce and hence we aimed to study these drug levels in patients with Inflammatory Bowel Disease (IBD).

**Methods**

Seventy five patients were recruited in the study of which Thiopurine was prescribed in 74 while 11 were on IFX infusion. Amongst these 10 patients were on both thiopurine and IFX. Thiopurine metabolites 6-TGN and 6-MMP were quantified by in-house optimized HPLC method in 72 patients while IFX trough level &ATI level were estimated by ELISA in all 11 patients. The level of 235-400 pmoles/8x$10^8$RBCs for 6-TGN, <5700pmoles/8x$10^8$RBCs for 6-MMP, 3-7ug/ml for IFX and absence of ATI were considered to be optimal.

**Results**

Majority of our patients 57(77%) were maintained on a low dose (<2mg/kg) of thiopurine. All 72 patients had 6-MMP level within range while 36(50%), 19(26.4%) &17(23.6%) had sub-therapeutic, therapeutic and high 6-TGN level respectively. The level of IFX also showed wide variability wherein 7(58%) had sub-therapeutic, 2(17%) had therapeutic and high levels each. All 7 patients with sub-therapeutic IFX level had a poor clinical outcome and only 2 of them had developed ATI with level of >1000ng/ml and 43.4ng/ml each. Amongst the 4 patients with therapeutic and high IFX level two had improved clinically, one patient was lost to follow up and one continued to have an active disease. All these patients had undetectable level of ATI.

**Conclusions**

Both thiopurine &IFX showed poor correlation with dose evincing remarkable inter-individual variability in drug metabolism. Formation of ATI in our patients reiterates the importance of drug monitoring in patients treated with these immune modulators.